Please type a plus sign (+) inside &

PTO/SB/08A (10-96)
Approved for use through 10/31/99 OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

5) 31 E

			A	Comple	ete if Known
Substitute fo	r form 1449A/PT	0	PATENT & TRA	Application Number	09/114,335
INFOR	MATION I	ISC	LOSURE	Filing Date	07/13/98
	MENT BY			First Named Inventor	Silver
(use as many	sheets as necessa	rvì		Group Art Unit	2741
(LLL LL LLL)	mocio di mocioni	-,,		Examiner Name	
Sheet	1	of	4	Attorney Docket Number	C98-035

		U.S.	PATENT DOCUMENTS		
Examiner Initials	Cite No.⊅	U.S. Patent Document Kind Code Number (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
2C		3.069.654	Hough	12-18-1962	
12c		3.936.800	Ejiri et al.	02-03-1976	1
Onc		4.200.861	Hubach et al.	04-29-1980	
Onc 1		4,441.206	Kuniyoshi et al.	1 04-03-1984	
CE		4.567.610	McConnell	1 01-28-1986	
99C 1		4.637.055	Taylor	01-13-1987	
OC 1		4.651.341	Nakashima et al.	03-17-1987]
Sc		4.672.676	Linger	1 06-09-1987	
AC 1		4.736.437	Sacks et ai.	04-05-1988	
290 I		4.783.829	Miyakawa et al.	11-08-1988	9
2C		4.799.175	Sano et al.	01-17-1989	
99C		4.823.394	Berkin et ai.	04-18-1989	
20C		4.843.631	Steinpichier et al.	06-27-1989	
200		4.955.062	Terui	09-04-1990	
100 T		5.046.109	Fujimori et al.	09-03-1991	
901		5.048.094	Aovama et al.	09-10-1991	
		·		1	

			FOR	EIG	Y PATENT DOCUMENT	rs		
Examiner Initials &	Cite No.23	Foreign Patent Document Kind Code Office Number (if known)		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Tg	
				<u> </u>				
ļi		 						
		 						Ш
		 			··	<u>,</u>	<u></u>	Ш
		 						Ш

Examiner Signature	Am	Chang	Date Considered	3/21/05
				·

^{*}EXAMINER: Initial if reference considered, whether or not cuation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.

[□] Unique citation designation number. Is See attached Kinds of U.S. Patent Documents. □ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3) □ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. □ Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside

PTO/SB/08A (10-96) Approved for use through 10/31/99 OMB 0651-0031 Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

1.5

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

2

Complete if Known						
Application Number	09/114,335					
Filing Date	07/13/98					
First Named Inventor	Silver					
Group Art Unit	2741					
Examiner Name						
Attorney Docket Number	C98-035					

			U.S.	PATENT DOCUMENTS		
Examiner Initials	Cite No.3	U.S. Patent Do	· Kind Code Since (if Snown)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
#c		5,168,530		Peregrim et al.	12-01-1992	<u> </u>
De		5,253,306	ĺ	Nishic	1 10-12-1993	
Vac		5.313.532	}	Harvey et 1i.	1 05-17-1994	<u> </u>
ac		5,347,595		Bokser	09-13-1994	i
Mc		5,384,711	1	Kanai et al.	01-24-1995	<u> </u>
VAC.		5,481,712	1	Silver et al.	1 01-02-1996	<u> </u>
UC		5,495.537		Bedrosian et al.	1 02-27-1996	
Olic		5,537,669		Evans et ai.	1 07-16-1996	1
OSC		5,568.563	1	Tanaka et al.	1 10-22-1996	
CAC		5,586,058		Aloni et al.	1 12-17-1996	
VOC.		5,602,937		Bedrosian et al.	02-11-1997	` .
LE		5,657,403		Woiff et ai.	08-12-1997	
AC		5.717.785		Silver	02-10-1998	
						l
						

			F	OREIG	PATENT DOCUMEN	rs		
Examiner Initials 3	Cite No.⊠	Foreign Patent Document Kind Code Office Number (if known)		ind Code	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Tes
								<u> </u>
								\perp
						<u> </u>		\sqcup
							<u> </u>	\sqcup
								igspace
							l	

Examiner Signature	Im	Change	Date Considered	3/2/05
				•

^{*}EXAMINER: Initial if reference considered, whether or not cutation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.

[™]Unique citation designation number. [®] See attached Kinds of U.S. Patent Documents. [®] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).25 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST, 16 if possible. Applicant is to place a check mark here if English language Translation is attached.



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

Complete if Known Application Number 09/114.335 Filing Date 07/13/98 First Named Inventor Silver Group Art Unit 2741 Examiner Name				
Application Number	09/114.335			
	07/13/98			
	Silver			
	2741			
Examiner Name				
Attorney Docket Number	C98-035			

		C	THER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
	Examiner	Cite	Name of the Author (in CAPITAL LETTERS), title of the article (when appropriate), title of the tem (book, magazine, journal, senai, symposium, catalog, etc.), date, pagers), volume-issue numbers), publisher, city and/or country where published.	7:
	inidals -	i 40.	BALLARD, D.H., "Generalizing the Hough Transform to Detect Arbitrary	
		!	Shages," Pattern Recognition 1981, pp. 111-122. Vol. 13. No. 2. Pergamon Press	
			Lid. UK	<u>: </u>
		i	BALLARD, et ai., "Section 4.2 Searching Near and Approximate Location," and	
	<u> </u>	ļ	"Section 4.3 The Housin Vietness for Curve Defection. Computer Vision. 1982.	
			on 121-131, Prentice-Hail, Inc., Englewood Cliffs, NJ, USA	<u>: </u>
			BROWN, LISA GOTTESFELD, "A Survey of image Registration Techniques."	·
	<u> </u>	 -	ACM Computing Surveys. December 1992, pp. 325-376. Vol. 24. No. 4.	:
E	-		Association for Computing Machinery, USA	:
			L CAFT L.L. et al., "Fast Edge-Only Matching Techniques for Robot Pattern	:
	!		Recognition." Computer Vision. Graphics. and image ? ocessing 39. 1987. 39.	
		İ	131-143 Academic Press, Inc.	
		<u>; </u>	LCAFILL, et al., "On the Minimum Number of Templates Required for Shift.	:
			Rotation and Size-Invariant-Pattern-Recognition. Pattern Recognition. 1983. 30.	
			205-216, Vol. 21. No. 3. Pergamon Press plc.	
	ļ	<u> </u>	COGNEX CORPORATION. "Chapter 2 Searching." Cognex 2000/3000/4000	
	i	i	Vision-Tools, 1992, pp. 2-1-to-2-62-Revision 5-2-P/N-590-0403, Natick, M.A.	
Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner			USA	
	<u> </u>	 -	COGNEX CORPORATION, "Chapter i Searching," Cognex 3000/4000/5000	
			Programmable Vision Engines, Vision Tools, 1996, pp. 1-68, Revision 7, 1-590.	
	THE RESERVE AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO	2000	1036. Natick. MA. USA	
			COGNEX CORPORATION. "Chapter 14 Golden Template Comparison."	
-		. Married Date	Cognex 3000/4000/5000-Programmable-Vision Engines, Vision Fools: 1996-pp.	
-			569-595, Revision 7.4 590-1036. Natick, MA. USA	
		 -	COGNEX CORPORATION, "Apex Search Object Library Functions." Natick,	i
			COGNEX CORPORATION, Apex search object blondy I uncloses. I was a search object blond date	
	2.00		MANUSANIP98-but-public-berore the above-referenced filing date.	<u> </u>
			COGNEX CORPORATION, "Apex Search Object," acuWin version 1.5, March	
er Film	SDCS###Charles	2200	-31-1997-pp.=1-35-Natick:-VI:: USA	
		<u> </u>		·
		~	COGNEX CORPORATION, "Apex Model Object act Wineversion" 5 Warch	
-			31. 1997, pp. 1-17. Natick, MA, USA	<u>!</u>
		i –	COGNEX CORPORATION. "Description of Sobel Search." Natick, M.A. USA.	
والمتناق والماء		PROSE AND LOCAL	-1998 but public before the above referenced filing date.	
	· · · · · · · · · · · · · · · · · · ·			

Examiner Signature	Jan	Chang	Date Considered	3/21/	105
					

Please type a plus sign (+) inside.



PTO/SB/08A (10-96)
Approved for use through 10/31/99 OMB 0651-0031 II
at and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO	Comple	ete if Known	
Substitute for form 1449A/PTO	Application Number	09/114,335	
INFORMATION DISCLOSURE	Filing Date	07/13/98	
STATEMENT BY APPLICANT	First Named Inventor	Silver	
(use as many sheets as necessary)	Group Art Unit	2741 .	
(use as many streets as necessary)	Examiner Name		
Sheet 4 of 4	Attorney Docket Number	C98-035	

	0	THER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No. 1	Name of the Author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	т
		CROUZIL, et al., "A New Correlation Criterion Based on Gradient Fields Similarity," Proceedings of the 13th International Conference on Pattern	
		Recognition Volume 1 Track A: Computer Vision. August 25-29. 1996, pp. 632-636. IEEE Computer Society Press, Los Alamitos, CA, USA	
		GRIMSON et al., "On the Sensitivity of the Hough Transform for Object	Ī
		Recognition." IEEE <u>Transactions on Pattern Analysis and Machine-Intelligence</u> : March 1990, pp. 255-274. Vol. 12. No. 3	
		HSIEH et al., "Image Registration Using a New Edge-Based Approach." Computer-Vision and Image Understanding, August 1997, pp. 112-130. Vol. 67.	
	A PARTY OF THE PAR	No. 2, Academic Press	
	-	_ROSENFELD et al., "Coarse-Fine Template Matching," IEEE Transactions on	-
		Systems, Man, and Cybernetics, February 1997, pp. 104-107, USA	
		TIAN et al., "Algorithms for Subpixel Registration," Computer Vision, Graphics. and Image Processing 35-1986, pp. 220-233, Academic Press. Inc.	-
		. *	İ
		·	
ĺ	- 1		

Examiner Signature	Jon	Chang	Date Considered	3/21/05	

(1)	Complete if Known
Substitute for form 1449APTO NOV 1 7 2000 Appl	ication Number 09/114,335
1 141	Date 07/13/98
STATEMENT BY PPLICAST First	Named Inventor Silver
1 Gron	Art Unit 2741
(use as many sheets as necessary)	iner Name
Sheet 1 of 4 Attor	ney Docket Number C98-035

			U.S.	PATENT DOCUMENTS		
Examiner Initials	Cite No.53	U.S. Patent Do	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Ic		3,069,654		Hough	12-18-1962	
Ugc		3,936,800		Ejiri et al.	02-03-1976	
20		4,200,861		Hubach et al.	04-29-1980	
200		4,441,206		Kuniyoshi et al.	04-03-1984	
AC.		4,567,610		McConnell	01-28-1986	
10		4,637,055		Taylor	01-13-1987	
9c		4,651,341		Nakashima et al.	03-17-1987	
90		4,672,676		Linger	06-09-1987	
De	i	4,736,437		Sacks et al.	04-05-1988	
JOC.		4,783,829		Miyakawa et al.	11-08-1988	
OC.		4,799,175		Sano et al.	01-17-1989	
AC.		4,823,394		Berkin et al.	04-18-1989	
VOC.		4,843,631		Steinpichler et al.	06-27-1989	
Ugc		4,955,062		Terui	09-04-1990	
9c		5,046,109		Fujimori et al.	09-03-1991	
2gc		5,048,094		Aoyama et al.	09-10-1991	
			1 1			

			FORE	EIGN	PATENT DOCUMENT	rs		
Examiner Initials 🗷	Cite No.E	ign Patent C	Kind C	ode [®]	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Tm
		 						┼
		 						\vdash
						R	ECEIVE	\mathbf{T}
						NC	V 2 0 2000	1

Examiner Signature Date Considered 3/21/05-OFFICE OF PETITIONS

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.

Unique citation designation number. See attached Kinds of U.S. Patent Documents. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language Translation is attached.

2

Sheet

Substitute for form 1449A/PTO NOV 1 7 7000 Application of the Principle of

of

4

Complete if Known						
Application Number	09/114,335					
Filing Date	07/13/98					
First Named Inventor	Silver					
Group Art Unit	2741					
Examiner Name						
Attorney Docket Number	C98-035					

			U.S.	PATENT DOCUMENTS		
Examiner Initials	Cite No.12	U.S. Patent Do	Kind Code ^E (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
ЯC		5,168,530		Peregrim et al.	12-01-1992	
<i>vg</i> c		5,253,306		Nishio	10-12-1993	
JAC.		5,313,532		Harvey et al.	05-17-1994	
2C		5,347,595		Bokser	09-13-1994	
U/C		5,384,711		Kanai et al.	01-24-1995	
7JC		5,481,712		Silver et al.	01-02-1996	
99°C		5,495,537		Bedrosian et al.	02-27-1996	
3C		5,537,669		Evans et al.	07-16-1996	
J.C.		5,568,563		Tanaka et al.	10-22-1996	
TC		5,586,058		Aloni et al.	12-17-1996	
AC		5,602,937		Bedrosian et al.	02-11-1997	
Do.		5,657,403		Wolff et al.	08-12-1997	
90c		5,717,785		Silver	02-10-1998	
					ļ	
	l l	'	1 1)	l .

Examiner Initials II	Cite No.m		gn Patent D	Kind C	ode	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TE
									F
								RECEIV	E
								NOV 2 0 7	
Examiner Signature	1	Jo	n Cl	her	<u> </u>	Date Considered	3/2/05/01	FICE OF PETIT	ПО

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.

Ill Unique citation designation number. Ill See attached Kinds of U.S. Patent Documents. Ill Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3) Ill For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Ill Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449 DETA ADEAN

4

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of

C 1	A . '6 T/	$\overline{}$
Compie	ete if Known	
Application Number	09/114,335	
Filing Date	07/13/98	
First Named Inventor	Silver	
Group Art Unit	2741	
Examiner Name		
Attorney Docket Number	C98-035	

1			THER PRIOR ART - NON PATENT LITERATURE DOCUMENTS		
	Examiner Initials *	Cite	Name of the Author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 2	
			BALLARD, D.H "Generalizing the Hough Transform to Detect Arbitrary		
			-Shapes;" Pattern-Recognition: 1981; pp: 141-122. Vol. 13. No. 2; Pergamon-Press- Ltd., UK		
	 		BALLARD, et al "Section 4.2 Searching Near and Approximate Location," and "Section 4.3 The Hough Method for Curve Detection," Computer Vision, 1982.		•
		}	pp. 121-131. Prentice-Hall, Inc., Englewood Cliffs, NJ, USA		
			BROWN, LISA GOTTESFELD, "A Survey of Image Registration Techniques." -ACM Computing Surveys, December 1992, pp. 325-376, Vol. 24, No. 4.		
***	A STATE OF THE PARTY OF THE PAR		Association for Computing Machinery, USA		
			CAELLI, et al., "Fast Edge-Only Matching Techniques for Robot Pattern		
			Recognition," Computer Vision, Graphics, and Image Processing 39. 1987, pp.	j	
			131-143, Academic Press, Inc.	-	-
			CAELLI, et al., "On the Minimum Number of Templates Required for Shift,		
			Rotation-and-Size-Invariant-Pattern-Recognition," Pattern-Recognition, 1988, pp.		
-			205-216, Vol. 21, No. 3, Pergamon Press plc.		
			COGNEX CORPORATION, "Chapter 2 Searching," Cognex 2000/3000/4000		
_			Vision Tools, 1992, pp. 2-1 to 2-62, Revision 5.2 P/N 590-0103, Natick, MA, USA		
			COGNEX CORPORATION, "Chapter 1 Searching," Cognex 3000/4000/5000		
	CONTRACTOR OF THE PARTY OF THE		Programmable-Vision-Engines, Vision-Tools, 1996, pp. 1-68, Revision 7.4 590-1036, Natick, MA, USA		•
			COGNEX CORPORATION, "Chapter 14 Golden Template Comparison,"		
-			-Cognex.3000/4000/5000_Programmable-Vision-Engines,-Vision-Tools,-1996,-pp. 569-595, Revision 7.4 590-1036, Natick, MA, USA		
}			COGNEX CORPORATION, "Apex.Search-Object-Library Functions," Natick;		
	THE PARTY OF THE P		MA, USA, 1998 but public before the above-referenced filing date.		
		×	COGNEX CORPORATION, "Apex Search Object," acuWin_version_1.5, March 31, 1997, pp. 1-35, Natick, MA, USA		-
			COGNEX CORPORATION, "Apex Model Object," acuWin version 1.5, March		
7	-		31, 1997, pp. 1-17, Natick, MA, USA		
			COGNEX CORPORATION, "Description of Sobel Search," Natick, MA, USA,	DOSES NO.	
			1998 but public before the above-referenced filing date.		

Examiner Signature	In Chang	Date Considered	3/21/05
	· · · · · · · · · · · · · · · · · · ·		

RECEIVED

NOV 2 0 2000

+

Considered. Include copy of this form with next communication with applicant.

1 Unique citation designation number. Applicant is to place a check mark here if English translation is attached.

Group Art Unit

Examiner Name

Attorney Docket Number

C98-035

3/21/05

٢			THER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
	Examiner Initials *	Cite	Name of the Author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
T			CROUZIL, et al., "A New Correlation Criterion Based on Gradient Fields	
+			Similarity," Proceedings of the 13th International Conference on Pattern Recognition Volume I Track A: Computer Vision, August 25-29, 1996, pp. 632-636, IEEE Computer Society Press, Los Alamitos, CA, USA	
ſ			GRIMSON et al., "On the Sensitivity of the Hough Transform for Object	
- ا			Recognition; IEEE-Transactions on Pattern Analysis and Machine Intelligence, March 1990, pp. 255-274, Vol. 12. No. 3	
ſ			HSIEH et al., "Image Registration Using a New Edge-Based Approach,"	
-			=Computer-Vision-and-Image=Understanding,=August=1997, pp. 112-130, Vol. 67, No. 2, Academic Press	
Γ			ROSENFELD et al., "Coarse-Fine Template Matching," IEEE Transactions on	
=			Systems, Man, and Cybernetics, February 1997, pp. 104-107, USA	2 170300-0700
			TIAN et al., "Algorithms for Subpixel Registration," Computer Vision, Graphics,	
	•	-	and Image Processing 35, 1986, pp. 220-233, Academic Press, Inc.	
-				
\mid			RECEIVED	
			NOV 2 0 2009	<u> </u>
-			1101 2 0 5000	ŀ
Ļ			OFFICE OF PETITIONS	
L			L	Ь

Date

Considered

(use as many sheets as necessary)

4

Sheet

Examiner

Signature

4

of

In Chan